

By *Congruity*, I mean a property of a fluid Body, whereby any part of it is readily united with any other part, either of it self, or of any other similar, fluid, or solid body: And by *Incongruity* a property of a fluid, by which it is hindred from uniting with any dissimilar, fluid, or solid Body.

This last property, any one that hath been observingly conversant about fluid Bodies, cannot be ignorant of. For (not now to mention several Chymical Spirits and Oyls, which will very hardly, if at all, be brought to mix with one another; insomuch that there may be found some 8 or 9, or more, several distinct Liquors, which swimming one upon another, will not presently mix) we need seek no further for Examples of this kind in fluids, then to observe the drops of rain falling through the air, and the bubbles of air which are by any means conveyed under the surface of the water; or a drop of common Sallet Oyl swimming upon water. In all which, and many more examples of this kind that might be enumerated, the incongruity of two fluids is easily discernable. And as for the Congruity or Incongruity of Liquids, with several kinds of firm Bodies, they have long since been taken notice of, and called by the Names of *Driness* and *Moisture* (though these two names are not comprehensive enough, being commonly used to signifie only the adhering or not adhering of water to some other solid Bodies) of this kind we may observe that water will more readily wet some woods than others; and that water, let fall upon a Feather, the whiter side of a Colwort, and some other leaves, or upon almost any dusty, unctuous, or resinous superficies, will not at all adhere to them, but easily tumble off from them, like a solid Bowl; whereas, if dropt upon Linnen, Paper, Clay, green Wood, &c. it will not be taken off, without leaving some part of it behind adhering to them. So Quick-silver, which will very hardly be brought to stick to any vegetable body, will readily adhere to, and mingle with, several clean metalline bodies.

And that we may the better finde what the cause of Congruity and Incongruity in bodies is, it will be requisite to consider, First, what is the cause of fluidness; And this, I conceive, to be nothing else but a certain pulse or shake of heat; for Heat being nothing else but a very brisk and vehement agitation of the parts of a body (as I have elsewhere made probable) the parts of a body are thereby made so loose from one another, that they easily move any way, and become fluid. That I may explain this a little by a gross Similitude, let us suppose a dish of sand set upon some body that is very much agitated, and shaken with some quick and strong vibrating motion, as on a Millstone turn'd round upon the under stone very violently whilst it is empty; or on a very stiff Drum-head, which is vehemently or very nimbly beaten with the Drumsticks. By this means, the sand in the dish, which before lay like a dull and unactive body, becomes a perfect fluid; and ye can no sooner make a hole in it with your finger, but it is immediately filled up again, and the upper surface of it levell'd. Nor can you bury a light body, as a piece of Cork under it, but it presently emerges or swims as 'twere on the top; nor can you lay a heavier on the top of it, as a piece of Lead, but it is immediately buried

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in Sand, and (as 'twere) sinks to the bottom. Nor in the side of the Dish, but the sand shall run out of obvious property of a fluid body, as such, but this is meerly caused by the vehement agitation of the sand for by this means, each sand becomes to have a vibration, so as no other heavier body can rest on it, unless it be other on either side: Nor will it suffer any Body to be heavier than it self. Another Instance of the nature of a violent jarring Motion, or a strong agitation, we may have from a piece of iron grated on a file: for if into that a pin be screw'd so firm and hard, as to have a convenient head to it, yet it can by no means be unloos'd; if, I say, you attempt to unscrew this whilst the grate will be found to undoe and turn very easily. The first manifests, how a body actually divided into small parcels, loosens and unties the parts of solid and firm bodies. The second, how heat to be any thing else, besides such a motion, could Mechanically produce such a one quick and strong motion, not spend fuel to melt a body. Now, that I do not spend groundless, I must refer the Reader to the Observations on the shining sparks of Steel, for there he shall find that they are produced upon small chips or parcels of Steel by quick and violent motion; and if the body of steel (as I there shew it may) I think we have little reason to suppose most any other may not also. Every Smith can inform you, that both his File and the Iron grows hot with filing, and that any two hard bodies together, they will do the same, that a sufficient degree of heat causes fluidity, in some cases, and in others later; that is, the parts of the body are so loose from one another, and so unapt to cohere, and so much so, that a very small degree of agitation keeps them always in motion. Of this kind, I suppose, the Ether, that is the medium, in which all other bodies do as it were swim and move, is the Air, which seems nothing else but a kind of tincture of restful and aqueous particles dissolv'd into it, and agitated by the tincture of Cochineel is nothing but some finer dissolved Concrete lick'd up or dissolv'd by the fluid water. And of it, we may easily give a more Intelligible reason, how it is so capable of Rarefaction and Condensation. For, as in some of some strongly tinged substance may sensibly colour the sand grains of appropriated Liquors, so as every drop of it may have its share, and be sensibly ting'd, as I have try'd with Cochineel: And as some few grains of Salt may colour a great quantity, as may be found by precipitations, so by the sight or taste; so the Air, which seems to be but a saline substance, dissolv'd and agitated by the fluid and